

APPENDIX D - TRAFFIC IMPACT STUDY REQUIREMENTS

Traffic Impact Study Requirements

When a Traffic Impact Study is required the study must be prepared according to the appropriate TIS level as shown below. The traffic study shall, at a minimum, incorporate West Jordan City principles and standards and national practices. Additional requirements and investigation may be imposed upon the applicant as necessary.

Traffic Study level I

Project ADT < 100 trips

No proposed modifications to traffic signals or roadway elements or geometry.

1. Study Area.

The study area, depending on the size and intensity of the development and surrounding development, may be identified by parcel boundary, area of immediate influence or reasonable travel time boundary.

The study area may be limited to or include property frontage and include neighboring and adjacent parcels. Identify site, cross, and next adjacent up and down stream access points within access category distance of property boundaries.

2. Design year.

Opening day of project

3. Analysis Conditions and Period

Identify site traffic volumes and characteristics.

Identify adjacent street(s) traffic volume and characteristics.

4. Identify right-of-way, geometric boundaries and physical conflicts.

Investigate existence of federal or state, no access or limited access control line.

5. Generate access point capacity analysis as necessary.

Analyze site and adjacent road traffic for the following time periods: weekday A.M. and P.M. peak hours including Saturday peak hours if required by the City Engineer. Identify special event peak hour as necessary (per roadway peak and site peak).

6. Design and Mitigation.

Identify operational concerns and mitigation measures to ensure safe and efficient operation pursuant to appropriate state highway access category.

Traffic Study Level II
Project ADT 100 to 500 trips

1. Study Area.

The study area, depending on the size and intensity of the development and surrounding development, may be identified by parcel boundary, area of immediate influence or reasonable travel time boundary. Intersection of site access drives with state highways and any signalized and unsignalized intersection within access category distance of property line. Include any identified queuing distance at site and study intersections

2. *Design Year*

Opening day of project

3. *Analysis Period*

Identify site and adjacent road traffic for weekday A.M. and P.M. peak hours (Saturdays if required by the City Engineer).

4. *Data Collection*

Identify site and adjacent street roadway and intersection geometries.
Identify adjacent street(s) traffic volume and characteristics.

5. *Conflict / Capacity Analysis*

Diagram flow of traffic at access point(s) for site and adjacent development.
Perform capacity analysis as determined by the City Engineer.

6. *Right-of-Way Access*

Identify right-of-way, geometric boundaries and physical conflicts.
Investigate existence of federal or state, no access or limited access control line.

7. *Design and Mitigation*

Determine and document safe and efficient operational design needs based on site and study area data.
Identify operational concerns and mitigation measures to ensure safe and efficient operation pursuant to appropriate state highway access category.

Project ADT 500 to 3,000 trips or peak hour < 500 trips.

1. Study Area

The study area, depending on the size and intensity of the development and surrounding development, may be identified by parcel boundary, area of immediate influence or reasonable travel time boundary. An acceptable traffic study boundary is 1/4-1/2 mile on each side of the project site per the City Engineer.

Intersection of site access drives with state highways and any signalized and unsignalized intersection within access category distance of property line. Include any identified queuing distance at site and study intersections.

2. Design Year

Opening day of project and five year after project completion.
Document and include all phases of development (includes out pad parcels).

3. Analysis Period

Analyze site and adjacent road traffic for weekday A.M. and P.M. peak hours including Saturday peak hours if identified as a high Saturday use.. Identify special event peak hour as necessary (adjacent roadway peak and site peak).

4. Data Collection

- a. Daily and Turning Movement counts.
- b. Identify site and adjacent street roadway and intersection geometries.
- c. Traffic control devices including traffic signals and regulatory signs.
- d. Traffic accident data

5. Trip Generation

Use equations or rates available in latest edition of ITE Trip Generation. Where developed equations are unavailable for intended land use, perform trip rate study and estimation following ITE procedures or develop justified trip rate agreed to by the Department.

6. Trip Distribution and Assignment

Document distribution and assignment of existing, site, background, and future traffic volumes on surrounding network of study area.

7. Conflict / Capacity Analysis

Diagram flow of traffic at access point(s) for site and adjacent development.
Perform capacity analysis for daily and peak hour volumes

8. Traffic Signal Impacts

For modified and proposed traffic signals:

- a. Traffic Signal Warrants as identified.
- b. Traffic Signal drawings as identified.
- c. Queuing Analysis

9. Design and Mitigation.

Determine and document safe and efficient operational design needs based on site and study area data. Identify operational concerns and mitigation measures to ensure safe and efficient operation pursuant to appropriate state highway access category.

Traffic Study Level III

Project ADT 3,000 to 10,000 trips or peak hour traffic 500 to 1,200 trips.

1. Study Area

The study area, depending on the size and intensity of the development and surrounding development, may be identified by parcel boundary, area of immediate influence or reasonable travel time boundary.

An acceptable traffic study boundary should be based on travel time or by market area influence. Intersection of site access drives with state highways and any intersection within 1/2 mile of property line on each side of project site.

2. Design Year

Opening day of project, five years and twenty years after opening.
Document and include all phases of development (includes out pad parcels).

3. Analysis period

For each design year analyze site and adjacent road traffic for weekday A.M. and P.M. peak hours including Saturday peak hours if identified as needed per the City Engineer. Identify special event peak hour as necessary (adjacent roadway peak and site peak).

4. Data Collection

- a. Daily and Turning movement counts.
- b. Identify site and adjacent street roadway and intersection geometries.
- c. Traffic control devices including traffic signals and regulatory signs.
- d. Automatic continuous traffic counts for at least 48 hours.
- e. Traffic accident data.

5. Trip Generation

Use equations or rates available in latest edition of ITE Trip Generation. Where developed equations are unavailable for intended land use, perform trip rate study and estimation following ITE procedures or develop justified trip rate agreed to by the Department.

6. Trip Distributions and Assignment

Document distribution and assignment of existing, site, background, and future traffic volumes on surrounding network of study area.

7. Capacity Analysis

- a. Level of Service (LOS) for all intersections.
- b. LOS for existing conditions, design year without project, design year with project.

8. Traffic Signal Impacts. For proposed Traffic Signals:

- a. Traffic Signal Warrants as identified.
- b. Traffic Signal drawings as identified.
- c. Queuing Analysis.
- d. Traffic Systems Analysis. Includes acceleration, deceleration and weaving.
- e. Traffic Coordination Analysis

10. Accident and Traffic Safety Analysis

Existing vs. as proposed development.

11. Design and Mitigation

Determine and document safe and efficient operational design needs based on site and study area data. Identify operational concerns and mitigation measures to ensure safe and efficient operation pursuant to appropriate state highway access category.

Traffic Study Level IV

Project ADT greater than 10,000 trips or peak hour traffic > 1,200 vehicles per hour.

1. Study Area

The study area, depending on the size and intensity of the development, will include the surrounding roadways ½ mile from the parcel boundary or reasonable travel time boundary.

2. Design Year

Opening day of project, five years and twenty years after opening.
Document and include all phases of development (includes out pad parcels).

3. Analysis period

For each design year analyze site and adjacent road traffic for weekday A.M. and P.M. peak hours including Saturday peak hours as needed per the City Engineer. Identify special event peak hour as necessary (adjacent roadway peak and site peak).

4. Data Collection

- a. Daily and Turning movement counts.
- b. Identify site and adjacent street roadway and intersection geometries.
- c. Traffic control devices including traffic signals and regulatory signs.
- d. Automatic continuous traffic counts for at least 24 hours or obtain ADT from local or state agencies
- e. Traffic accident data.

5. Trip Generation

Use equations or rates available in latest edition of ITE Trip Generation. Where developed equations are unavailable for intended land use, perform trip rate study and estimation following ITE procedures or develop justified trip rate agreed to by the Department.

6. Trip Distributions and Assignment

Document distribution and assignment of existing, site, background, and future traffic volumes on surrounding network of study area.

7. Capacity Analysis

- a. Level of Service (LOS) for all intersections.
- b. LOS for existing conditions, design year without project, design year with project.

8. Traffic Signal Impacts. For proposed traffic signals:

- a. Traffic Signal Warrants as identified.
- b. Traffic Signal drawings as identified.
- c. Queuing Analysis.
- d. Traffic Systems Analysis. Includes acceleration, deceleration and weaving.
- e. Traffic Coordination Analysis.

9. Accident and Traffic Safety Analysis. Existing vs. as proposed develop

10. Design and Mitigation

Determine and document safe and efficient operational design needs based on site and study area data. Identify operational concerns and mitigation measures to ensure safe and efficient operation pursuant to appropriate state highway access category.